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ABSTRACT

This pamphlet contains several ideas that have worked for others and may be helpful in starting a new Energy Patrol school program. The program has four main goals: (1) to teach energy conservation; (2) to reduce energy consumption; (3) to reduce the taxpayer's burden; and (4) to encourage site-based monitoring of energy use. The document contains sections on: (1) generating interest in energy consumption; (2) introducing the program; (3) providing incentives; (4) keeping motivation high; (5) getting school board approval; and (6) tracking results. (LZ)

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Marketing energy patrol

Tips from Arizona
energy pros

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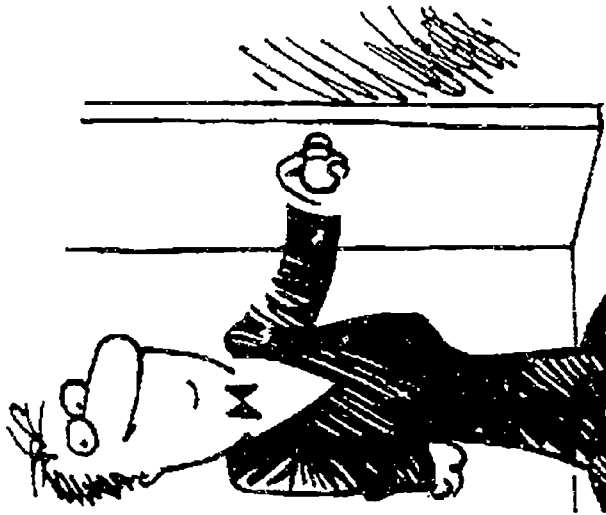
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The Energy Patrol has four main goals:

- 1) to teach energy conservation**
- 2) to reduce energy consumption**
- 3) to reduce the taxpayer's burden and**
- 4) to encourage site-based monitoring of energy use.**

The Energy Patrol can be a very effective school program once it is implemented. Getting the patrol implemented, however, will take some care and planning. Just remember, there is more than one way to run an Energy Patrol. This pamphlet contains several ideas that have worked for others and may be helpful in starting a new program.



Generating interest in energy conservation

- **Discussing energy costs and how to reduce energy use both at school and at home can help introduce the subject at staff meetings.**
- **Revealing the school's utility costs to the staff is quite effective, particularly when the amount is expressed in terms of the number of teaching positions or textbooks the money could fund.**
- **Emphasizing social action through environmental education gives students a chance to do something about environmental problems instead of just hearing about them.**



Introducing the Energy Patrol

- Instead of the "top down" approach, try to create an environment just waiting for a program like Energy Patrol to come along.
- Integrate Energy Patrol with a community service message (e.g., saving taxpayer money or helping the environment).
- Present it to the students and let them decide. Ask them if they want to teach the adults about energy conservation.
- Display large charts showing past energy consumption where everyone can see them.
- Sell Energy Patrol as using energy wisely and helping the environment, rather than cutting back energy use.

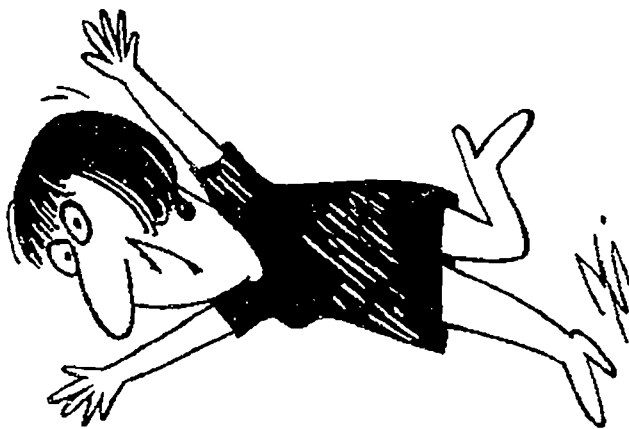


Providing incentives

- Financial incentives are great motivators. Extra funding for academic programs, supplies, salaries, and equipment can be provided from money saved in utility costs. Availability of extra funds during these years of budget restraints is very appealing. Do not promise extra funds, however, if they cannot be delivered. If promised funds are not delivered, teacher interest will dwindle.
- Recognizing the class or individuals who attain the greatest savings can stimulate healthy competition between classes.

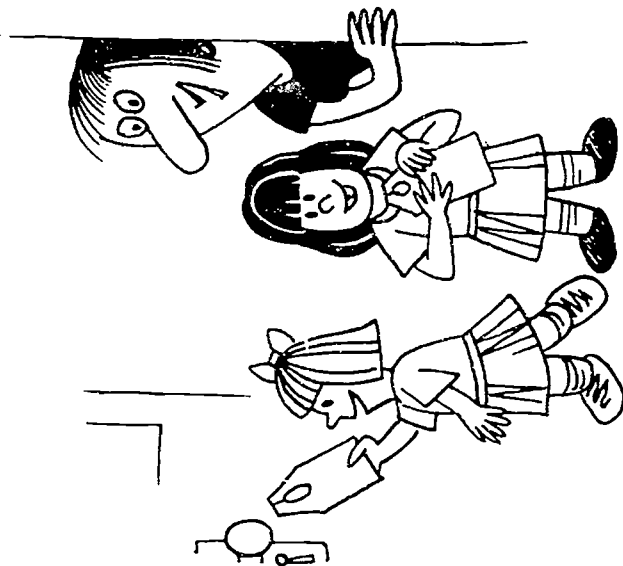


- Such a competition could instigate new energy saving ideas to be implemented.
- Conduct monthly contests for the staff and students to guess energy consumption, complete with prizes for the winners.
 - Provide Energy Patrol jackets, ID badges and clipboards. These are incentives for students who like to feel their efforts are appreciated.
 - Have special Energy Patrol assemblies where the students give presentations and are recognized.
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Keeping the motivation high

- Teachers will be more cooperative if the Energy Patrol issues reminders and not citations to teachers who leave their lights on.
- Try electing classroom Energy Monitors who will be in charge of turning off lights and closing windows and doors. If the Energy Patrol finds a violation, the Energy Monitor gets the reminder, not the teacher.
- Goals must be attainable. If goals are not met and the initiative fails, it

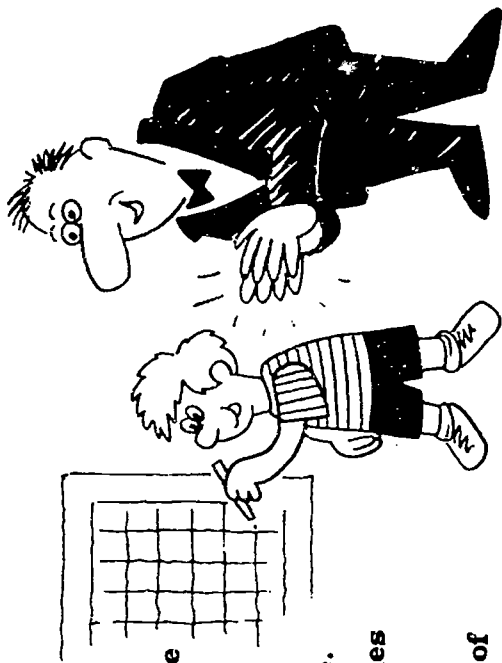


is very difficult to regenerate interest.

- Be flexible with patrol times. Change the times patrols are performed.
 - Change the frequency.
 - Energy Patrol could be organized by age into different levels: introductory, where students conduct normal patrols; intermediate, where students progress to take charge of an Energy Patrol team; advanced, where students learn how to be energy auditors; and senior, where students are in charge of an entire energy audit team.
 - Students can make presentations to the PTA, the school board and other community organizations where the students can teach the adults.
 - Keep a chart of results where everyone can see it. Including environmental benefits will help broaden perspective.
 - Electing a student Energy Commissioner to the Student Council could generate more excitement about the Energy Patrol, especially around
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election time. The student Energy Commissioner could be in charge of the Energy Patrol and get the Student Council involved in saving energy around the school.

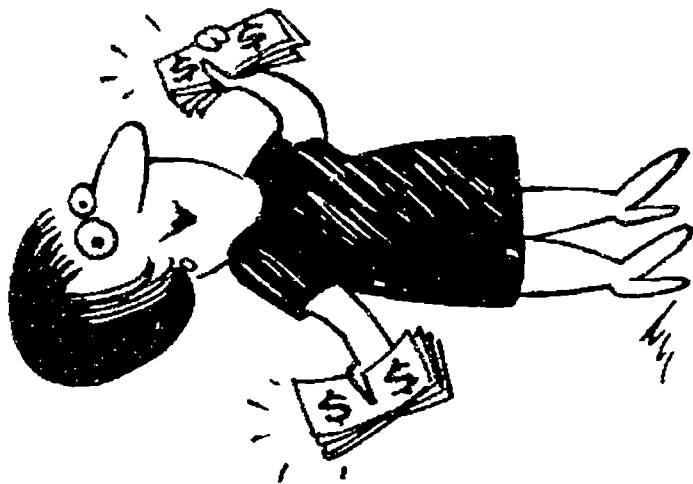
- **Over time, these students can become energy conservation advocates and testify before task forces, special committees and even the Legislature.**
- **Try to get the local paper to do articles on the Energy Patrol.**
- **Let the students know they are part of a winning team and give them positive feedback.**



Getting School Board approval

- Start with only one school. It will be easier to get approved and to run. Starting with only one school and growing is better than starting with the whole district and shrinking or failing. The first school could be used as an example of what it takes to run an Energy Patrol and how much money can be saved.
 - Show that the Energy Patrol saves money which could possibly be put back into educational programs.
 - Pursue school board support for energy conservation funding.
 - Identify a staff member who is willing to be the advisor. It could be a teacher, an environmentalist, the custodian or a volunteer parent.
 - The materials required to run the Energy Patrol (ID badges, jackets and clipboards) cost only about \$100 and there is great probability these materials could be donated by local utility companies.
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• Tucson Unified School District began the Resources Efficiency Awareness Program (REAP) in 1991 to manage \$8 million a year in energy and water utility costs. The first REAP SWEAP (Energy Patrol), at Fort Lowell Elementary School, demonstrated over \$2,000 in avoided energy cost in less than one school year. During the first year as a district program, each school that met its energy reduction goal received a \$500 dividend. Now, the Energy Patrol is sponsored by Tucson Electric Power and has grown to over 20 schools in the Tucson area.



Tracking results

- Measure the savings in kilowatt hours (kWh) of electricity and therms (TCFs) of natural gas, not in dollars. Convert kWhs and TCFs into British Thermal Units (BTU). One kWh equals 3,400 BTUs and one TCF equals 100,000 BTUs. Add them together for the total BTUs used. BTUs provide a more consistent, comparable figure. The dollar figure will fluctuate as utility rates change and square footage is increased.
 - Compare each site with its own past history, not to another site. Buildings are different and energy usage may not be the same. Select a base year to compare energy consumption and calculate budget savings. For example, if you choose 1991-92 as your base year, you would note the kilowatt-hour consumption for each month of that year. Obtain your utility bills from the District Office. Compare the new kilowatt-hour amount with the amount from 1991-92. This will help monitor budget savings.
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- Distinguish between budget savings and avoided cost. Budget savings is what your bill was this year as compared to the base year. To ascertain the avoided cost, calculate the BTUs per square foot. Then estimate what it would have been without the energy saving measures. A subtraction will give you the avoided cost, not budget savings. The avoided cost amount is usually higher than budget savings.
 - Acquire the software available to track energy savings. Some software programs are: ENACT-An Energy Accounting and Cost Analysis Management System, FASER Energy Accounting (Fast Accounting System for Energy Reporting), Energy 2.0 and EARS (Energy Accounting Report System).
 - Encourage increased energy savings by changing the base year approximately every three years.
 - Publicize your results. Apply for energy conservation awards from the Arizona Department of Commerce Energy Office.
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